

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Ozgur C. Leonard et al.

Application No.: 10/768,303

Confirmation No.: 6314

Filed: January 29, 2004

Art Unit: 2195

For: MECHANISM FOR ASSOCIATING
RESOURCE POOLS WITH OPERATING
SYSTEM PARTITIONS

Examiner: E. C. Wai

APPELLANTS' BRIEF UNDER 37 CFR §41.37

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR § 41.37, please consider the following Appellant's Brief in the referenced application currently before the Board of Patent Appeals and Interferences.

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§ 41.37 and M.P.E.P. § 1205.2:

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I. Real Party of Interest

The real party in interest for the referenced application is Sun Microsystems, Inc. An Assignment transferring all interest in the referenced application from the inventors to Sun Microsystems, Inc. was filed with the USPTO on January 29, 2004. The Assignment is recorded at Reel 014948, Frame 0873.

II. Related Appeals and Interferences

To the best of the knowledge of the Appellants and Appellants' legal representative, Application Serial No. 10/771,698 ('698) is a related case to the present application and is also on Appeal to the Board of Patent Appeals and Interferences ("The Board"). The pending Appeal for '698 may have a bearing on, directly affect, or be affected by the decision of The Board in this Appeal.

III. Status of Claims

U.S. Application Serial No. 10/768,303 ("the '303 Application") was filed on January 9, 2004. As filed, the '260 Application included claims 1-33. In an amendment dated January 27, 2009, claims 9, 20, and 31 were cancelled without prejudice or disclaimer. Accordingly, claims 1-8, 10-19, 21-30, and 32-33 are pending in the '303 Application. Claims 1, 12, and 23 are independent. The remaining claims depend, directly or indirectly, from the independent claims.

All the pending claims were rejected in an Office Action dated September 30, 2009 ("Office Action").

Claims 1-8, 10-19, 21-30, and 32-33 are on appeal.

IV. Status of Amendments

All of the amendments have been entered and considered by the Examiner. Appellants did not file an Amendment after the Final Rejection. The pending claims of record are present in the Claims Appendix.

V. Summary of Claimed Subject Matter

The following discussion summarizes the content of the claimed subject matter. The references to the Specification made below should not be construed as the only location in the Specification which support or discuss the respective limitation.

Independent claim 1 of the invention discloses a method performed by an operating system. The method includes establishing a plurality of non-global operating system partitions within a global operating system environment provided by the operating system. *See, e.g.*, Specification, page 11, lines 6-11; Fig. 1: Steps 130, 140(a), 140(b). Each non-global operating system partition serves to isolate processes running within that non-global operating system partition from other non-global operating system partitions within the global operating system environment. *See, e.g.*, Specification, page 11, lines 12-21; Fig. 1: Steps 140(a), 140(b). Enforcement of boundaries between the non-global operating system partitions is carried out by the operating system. *See, e.g.*, Specification, page 13, lines 1-10; Fig. 1: Step 150. The non-global operating system partitions do not each have a separate operating system kernel executing therein. *See, e.g.*, Specification, page 14 lines 21-23 and page 15, lines 1-7; Fig. 1: Steps 140(a), 140(b). The non-global operating system partitions each include a file system. *See, e.g.*, Specification, page 11, lines 12-21; Fig. 1: Steps 180(a), 180(b). Each of the plurality of non-global operating system partitions includes a particular

non-global operating system partition. *See, e.g.*, Specification, page 11, lines 12-21; Fig. 1: Steps 140(a), 140(b). The method further includes associating the particular non-global operating system partition with a first resource pool including one or more resources. *See, e.g.*, Specification, page 18, lines 4-16; Fig. 4: Step 403. The method further includes ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool. *See, e.g.*, Specification, page 19, lines 21-23 and page 20, lines 1-8; Fig. 5: Step 502. The method further includes receiving a request to change the resource pool association for the particular non-global operating system partition to associate the particular non-global operating system partition with a second resource pool instead of the first resource pool. *See, e.g.*, Specification, page 21, lines 6-12; Fig. 7: Step 702. The second resource pool is a different resource pool from the first resource pool and the second resource pool includes one or more resources. *See, e.g.*, Specification, page 21, lines 6-12; Fig. 7: Step 702. Without terminating and restarting the processes running within the particular non-global operating system partition, the method further includes changing the resource pool association for the particular non-global operating system partition to cause the particular non-global operating system partition to be associated with the second resource pool instead of the first resource pool. *See, e.g.*, Specification, page 18, lines 4-16; Fig. 5: Step 503. Without terminating and restarting the processes running within the particular non-global operating system partition, the method further includes ensuring that the processes running within the particular non-global operating system partition are allowed to utilize on only the resources in the second resource pool. *See, e.g.*, Specification, page 21, lines 6-12, Fig. 5: Step 503.

Independent claim 12 of the invention discloses a machine-readable storage medium having stored thereon at least a portion of an operating system. *See, e.g.*, Specification, page 19, lines 4-20.

The machine readable medium comprises instructions for causing one or more processors to establish a plurality of non-global operating system partitions within a global operating system environment provided by the operating system. *See, e.g.*, Specification, page 11, lines 6-11; Fig. 1: Steps 130, 140(a), 140(b). Each non-global operating system partition serves to isolate processes running within that non-global operating system partition from other non-global operating system partitions within the global operating system environment. *See, e.g.*, Specification, page 11, lines 12-21; Fig. 1: Steps 140(a), 140(b). Enforcement of boundaries between the non-global operating system partitions is carried out by the operating system. *See, e.g.*, Specification, page 13, lines 1-10; Fig. 1: Step 150. The non-global operating system partitions do not each have a separate operating system kernel executing therein. *See, e.g.*, Specification, page 14 lines 21-23 and page 15, lines 1-7; Fig. 1: Steps 140(a), 140(b). The non-global operating system partitions each include a file system. *See, e.g.*, Specification, page 11, lines 12-21; Fig. 1: 180(a), 180(b). Each of the plurality of non-global operating system partitions includes a particular non-global operating system partition. *See, e.g.*, Specification, page 11, lines 12-21; Fig. 1: Steps 140(a), 140(b). The machine readable storage medium also includes instructions for causing one or more processors to associate the particular non-global operating system partition with a first resource pool including one or more resources. *See, e.g.*, Specification, page 18, lines 4-16; Fig. 4: Step 403. The machine readable storage medium also includes instructions for causing one or more processors to ensure that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool. *See, e.g.*, Specification, page 19, lines 21-23 and page 20, lines 1-8; Fig. 5: Step 502. The machine readable storage medium also includes instructions for causing one or more processors to receive a request to change the resource pool association for the

particular non-global operating system partition to associate the particular non-global operating system partition with a second resource pool instead of the first resource pool. *See, e.g.*, Specification, page 21, lines 6-12; Fig. 7: Step 702. The second resource pool is a different resource pool from the first resource pool and the second resource pool includes one or more resources. *See, e.g.*, Specification, page 21, lines 6-12; Fig. 7: Step 702. The machine readable storage medium also includes instructions for causing one or more processors to, without terminating and restarting the processes running within the particular non-global operating system partition, change the resource pool association for the particular non-global operating system partition to cause the particular non-global operating system partition to be associated with the second resource pool instead of the first resource pool. *See, e.g.*, Specification, page 18, lines 4-16; Fig. 5: Step 503. The machine readable storage medium also includes instructions for causing one or more processors to, without terminating and restarting the processes running within the particular non-global operating system partition, ensure that the processes running within the particular non-global operating system partition are allowed to utilize on only the resources in the second resource pool. *See, e.g.*, Specification, page 21, lines 6-12, Fig. 5: Step 503.

Independent claim 23 of the invention discloses an apparatus for implementing at least a portion of an operating system. The apparatus includes means for establishing a plurality of non-global operating system partitions within a global operating system environment provided by the operating system. *See, e.g.*, Specification, page 11, lines 6-11; Fig. 1: Steps 130, 140(a), 140(b). Each non-global operating system partition serves to isolate processes running within that non-global operating system partition from other non-global operating system partitions within the global operating system environment. *See, e.g.*, Specification, page 11, lines 12-21; Fig. 1: Steps

140(a), 140(b). Enforcement of boundaries between the non-global operating system partitions is carried out by the operating system. *See, e.g.*, Specification, page 13, lines 1-10; Fig. 1: Step 150. The non-global operating system partitions do not each have a separate operating system kernel executing therein. *See, e.g.*, Specification, page 14 lines 21-23 and page 15, lines 1-7; Fig. 1: Steps 140(a), 140(b). The non-global operating system partitions each include a file system. *See, e.g.*, Specification, page 11, lines 12-21; Fig. 1: Steps 180(a), 180(b). Each of the plurality of non-global operating system partitions includes a particular non-global operating system partition. *See, e.g.*, Specification, page 11, lines 12-21; Fig. 1: Steps 140(a), 140(b). The apparatus further includes means for associating the particular non-global operating system partition with a first resource pool including one or more resources. *See, e.g.*, Specification, page 18, lines 4-16; Fig. 4: Step 403. The apparatus further includes means for ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool. *See, e.g.*, Specification, page 19, lines 21-23 and page 20, lines 1-8; Fig. 5: Step 502. The method further includes receiving a request to change the resource pool association for the particular non-global operating system partition to associate the particular non-global operating system partition with a second resource pool instead of the first resource pool. *See, e.g.*, Specification, page 21, lines 6-12; Fig. 7: Step 702. The second resource pool is a different resource pool from the first resource pool and the second resource pool includes one or more resources. *See, e.g.*, Specification, page 21, lines 6-12; Fig. 7: Step 702. Without terminating and restarting the processes running within the particular non-global operating system partition, the apparatus further includes means for changing the resource pool association for the particular non-global operating system partition to cause the particular non-global operating system partition to be associated with the second resource pool

instead of the first resource pool. *See, e.g.*, Specification, page 18, lines 4-16; Fig. 5: Step 503. Without terminating and restarting the processes running within the particular non-global operating system partition, the apparatus further includes means for ensuring that the processes running within the particular non-global operating system partition are allowed to utilize on only the resources in the second resource pool. *See, e.g.*, Specification, page 21, lines 6-12, Fig. 5: Step 503.

VI. Grounds of Rejection to be Reviewed on Appeal

The rejection to be reviewed on this appeal is the rejection of claims 1-8, 10-19, 21-30, and 32-33 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2003/0014466 (“Berger”) in view of U.S. Patent Publication No. 2005/0076326 (“McMillan”), U.S. Patent Publication No. 2002/0156824 (“Armstrong”), and U.S. Patent Publication No. 2006/0168224 (“Midgley”).

VII. Argument

In this Appeal, Appellants argue that claims 1-8, 10-19, 21-30, and 32-33 are patentable over Berger, McMillan, Armstrong, and Midgley, whether viewed separately or in combination, for at least the reasons given below. Independent claim 1 is representative of claims 1-8, 10-19, 21-30, and 32-33.

Briefly, as described above, claim 1 discloses, in part, non-global operating system partitions. Each of these non-global operating system partitions does not have a separate operating system kernel, but each has a separate file system. *See, e.g.*, paragraph [0011] of the Specification.

Further, each of the non-global operating system (OS) partitions serves to isolate processes running within it from other non-global OS partitions. *See, e.g., Id.*

Turning to the rejection, MPEP § 2143 states that “[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.” *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727 (2007). Further, when combining prior art elements, the Examiner “must articulate the following: (1) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference....” MPEP § 2143(A). Appellants respectfully assert that Berger, McMillan, Armstrong, and Midgley fail to disclose or otherwise render obvious each and every element of the claims, either individually or combined.

A. The cited art fails to disclose or render obvious causing a non-global OS partition to be associated with a particular resource pool without terminating and restarting the processes executing in the non-global OS partition

Berger, McMillan, Armstrong, and Midgley fail to disclose or otherwise render obvious, at least, (i) causing the particular non-global operating system partition to be associated with the second resource pool instead of the first resource pool without terminating and restarting the processes running within the particular non-global OS partition.

The Examiner contends that Armstrong discloses “caus[ing] the particular non-global operating system partition to be associated with the second resource pool instead of the first resource pool” in paragraph [0009]. *See* Final Office Action mailed September 30, 2009, page 4. Further, the Examiner contends that Midgley discloses allocating resources from a server pool

without the need to restart the server in paragraph [0006]. *See* Final Office Action mailed September 30, 2009, page 5. Appellants assert that the Examiner's contentions are improper, and are otherwise insufficient to show prima facie obviousness.

Armstrong is directed to a method for allocating processor resources in a logically partitioned computer system. The cited portion of Armstrong describes, "[l]ogical partitions are generally allocated by a system administrator or user with similar authority, i.e., the allocation is performed by issuing commands to appropriate management software resident on the system rather than physical reconfiguration of hardware components." *See* Armstrong, para. [0009]. Accordingly, the cited portion of Armstrong merely discloses that resources may be partitioned, and does not disclose associating a partition with a resource pool, as is required by independent claim 1. In fact, there is absolutely no affirmative disclosure in Armstrong of associating a particular partition, assuming *arguendo* that resources are partitioned in Armstrong, to a resource pool from which the particular partition can obtain resources. Further, it logically follows from the above that because Armstrong is completely silent regarding associating a particular non-global operating system partition with a first resource pool, Armstrong is also silent with respect to associating a non-global operating system partition with the second resource pool.

Moreover, Midgley does not supply that which Armstrong lacks. Specifically, Midgley is directed to configuration of a web server to facilitate capacity on demand. The cited portion of Midgley discloses "the method allows for making a change to a hardware resource or data resource without the need for the server to be restarted as with other prior art systems." *See* Midgley, para. [0006]. Appellants assert that merely disclosing allowing for a change to a hardware or data resource without restarting a server is not indicative of changing a resource pool associated with a

non-global partition without restarting the processes involved. In particular, the claim requires that (a) the first and second resource pool each comprise one or more resources, (b) the second resource pool is different than the first resource pool, and (c) that the non-global partition is associated with a different one or more resources without interrupting the processes executing in the partition. At best, Midgley discloses that a change is made to a resource within a given resource pool, where the resource pool is accessible by the web server. This is clearly distinct from modifying a partition's association from a first resource pool to second resource pool. Accordingly, the combination of Midgley and Armstrong does not achieve the claimed limitation required by (i) above.

For these reasons, Armstrong and Midgley fail to disclose or otherwise render obvious the limitation required by (i) above. Further, Berger and McMillan fail to disclose that which Armstrong and Midgley lack. Specifically, as admitted by the Examiner on pages 3-5 of the Final Action, Berger and McMillan are silent regarding causing a particular non-global operating system to be associated with a second resource pool instead of the first resource pool without restarting the processes executing on the non-global OS partition.

B. The combination of Berger and McMillan to render obvious the feature that non-global OS partitions each comprise a file system is improper

The claimed invention requires, in part, that each non-global OS partition comprises a file system. The Examiner cites Berger as disclosing a plurality of non-global OS partitions. *See* Office Action p.3. However, Examiner admits that Berger does not explicitly teach that each of the non-global OS partition comprises a file system. The Examiner instead relies on McMillan as disclosing that each non-global OS partition comprises a file system. *See* Final Office Action p. 3. Specifically, Examiner contends that “[i]t would have been obvious to one of ordinary skill in the

art at the time of the invention to try to modify Berger to explicitly teach a separate file system for each partition. One would be motivated by the desire to provide better isolation from each of the other environments as taught by McMillan.” See Office Action p. 3-4.

The Federal Circuit has found that “[a]n inference of nonobviousness is especially strong where the prior art’s teachings undermine the very reason being proffered as to why a person of ordinary skill would have combined the known elements.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1326 (Fed. Cir. 2009).

Assuming, *arguendo*, that Berger discloses a plurality of non-global operating system partitions and McMillan discloses that each non-global operating system partition comprises a file system, there is no motivation to combine the cited prior references.

Specifically, McMillan is directed to “the creation of multiple, semi-independent virtual [operating system] environments within a single operating system.” See McMillan, para. [0008]. Specifically, “[t]he file system and registry information for each environment is independent of the base OS and other environments.” See *Id.* By contrast, Berger discloses the use of “containment,” which includes placing strict controls on which resources an application can access. See Berger paragraph [0010]. Specifically, processes are partitioned using labels or tags. See Berger para. [0035]. Thus, each container does not have its own file system, but restricts applications to access only certain resources of a common file system. Further, Berger discloses that using the tagging system “alleviate[s] the requirement of editing a configuration file for managing compartments by providing utilities that may be utilized within the user-space of an [operating system].” See Berger, para. [0130]. Accordingly, the tagging system of Berger is clearly directed to a containment system that requires little editing of the underlying system. A person skilled in the art would not be

motivated to modify Berger so that each container comprises a separate file system because Berger is directed to simplifying the compartment system by avoiding editing configuration files by merely tagging the resources already available – the creation of separate file systems would necessarily resulting the substantial editing of the configuration files of the underlying operating system. Further, the additional of multiple executing environments to the system of Berger (as opposed to utilizing the single OS compartment system of Berger) would result in a significant amount of editing of the configuration file.

The excessive amount of editing required to perform the modification proposed by the Examiner is counter to the underlying purpose of Berger, which seeks to minimize editing of the configuration files. For these reasons, Berger and McMillan are not properly combinable.

C. Summary

The framework for a rejection under 35 U.S.C. § 103 provides that all claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would yield nothing more than predictable results to one of ordinary skill in the art. *See KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739 (2007). For at least the reasons described above, the cited prior art fails to disclose or otherwise render obvious each and every limitation of independent claim 1. Moreover, at least Berger and McMillan are not properly combinable. Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness for independent claim 1 in view of Berger, Armstrong, McMillan, and Midgley. *In re Kahn*, 441 F.3d 977, 985-986 (Fed. Cir. 2006) (“On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia

of nonobviousness”) (emphasis in original) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)); *see also* 37 C.F.R. § 41.37(c)(1)(vii).

VIII. Conclusion

In view of the above, the Examiner’s contentions do not support the rejection under 35 U.S.C. § 103 (a). Accordingly, a favorable decision from the Board is respectfully requested.

Dated: March 2, 2010

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CLAIMS APPENDIX

Claims Involved in the Appeal of Application Serial No. 10/768,303

1. A method performed by an operating system, comprising:

- establishing a plurality of non-global operating system partitions within a global operating system environment provided by the operating system, wherein each non-global operating system partition serves to isolate processes running within that non-global operating system partition from other non-global operating system partitions within the global operating system environment, wherein enforcement of boundaries between the non-global operating system partitions is carried out by the operating system, wherein the non-global operating system partitions do not each have a separate operating system kernel executing therein, wherein the non-global operating system partitions each comprise a file system, and wherein each of the plurality of non-global operating system partitions comprises a particular non-global operating system partition;
- associating the particular non-global operating system partition with a first resource pool comprising one or more resources;
- ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool;
- receiving a request to change the resource pool association for the particular non-global operating system partition to associate the particular non-global operating system partition with a second resource pool instead of the first resource pool, wherein the second resource pool is a different resource pool from the first resource pool, and wherein the second resource pool comprises one or more resources;
- without terminating and restarting the processes running within the particular non-global operating system partition:
- changing the resource pool association for the particular non-global operating system partition to cause the particular non-global operating system partition to be associated with the second resource pool instead of the first resource pool; and

ensuring that the processes running within the particular non-global operating system partition are allowed to utilize only the resources in the second resource pool.

2. The method of claim 1, wherein the first resource pool comprises one or more processors.
3. The method of claim 2, wherein ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool comprises:
 - assigning work from processes running within the particular non-global operating system partition to only the one or more processors in the first resource pool.
4. The method of claim 1, wherein the first resource pool comprises an indication of a maximum amount of memory that can be consumed.
5. The method of claim 4, wherein ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool comprises:
 - receiving, from a particular process running within the particular non-global operating system partition, a memory allocation request;
 - determining whether granting the memory allocation request would cause the maximum amount of memory that can be consumed to be exceeded; and
 - in response to a determination that granting the memory allocation request would not cause the maximum amount of memory that can be consumed to be exceeded, granting the memory allocation request.
6. The method of claim 5, wherein ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool further comprises:
 - in response to a determination that granting the memory allocation request would cause the maximum amount of memory that can be consumed to be exceeded, deallocating

sufficient memory from one or more other processes to enable the memory allocation request to be granted without causing the maximum amount of memory that can be consumed to be exceeded; and
granting the memory allocation request.

7. The method of claim 1, wherein the operating system is executed on a computer system, and wherein the resources in the first resource pool are just a subset of a total set of resources available on the computer system.
8. The method of claim 1, wherein ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool comprises:
associating each process running within the particular non-global operating system partition with the first resource pool.
9. (Canceled)
10. The method of claim 8, wherein ensuring that the processes running within the particular non-global operating system partition are allowed to utilize only the resources in the second resource pool comprises:
associating each process running within the particular non-global operating system partition with the second resource pool instead of the first resource pool.

11. The method of claim 1, wherein the operating system executes on a computer system, and wherein the method further comprises:
- prior to receiving the request to change the resource pool association:
 - receiving, from a particular process running within the particular non-global operating system partition, a request for information pertaining to all resources; and
 - providing, to the particular process, information pertaining only to the one or more resources in the first resource pool, even though the computer system comprises other resources.
12. A machine-readable storage medium having stored thereon at least a portion of an operating system, the machine readable storage medium comprising:
- instructions for causing one or more processors to establish a plurality of non-global operating system partitions within a global operating system environment provided by the operating system, wherein each non-global operating system partition serves to isolate processes running within that non-global operating system partition from other non-global operating system partitions within the global operating system environment, wherein enforcement of boundaries between the non-global operating system partitions is carried out by the operating system, wherein the non-global operating system partitions do not each have a separate operating system kernel executing therein, wherein the non-global operating system partitions each comprise a file system, and wherein each of the plurality of non-global operating system partitions comprises a particular non-global operating system partition;
 - instructions for causing one or more processors to associate the particular non-global operating system partition with a first resource pool comprising one or more resources;
 - instructions for causing one or more processors to ensure that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool;

instructions for causing one or more processors to receive a request to change the resource pool association for the particular non-global operating system partition to associate the particular non-global operating system partition with a second resource pool instead of the first resource pool, wherein the second resource pool is a different resource pool from the first resource pool, and wherein the second resource pool comprises one or more resources;

instructions for causing one or more processors to change, without terminating and restarting the processes running within the particular non-global operating system partition, the resource pool association for the particular non-global operating system partition to cause the particular non-global operating system partition to be associated with the second resource pool instead of the first resource pool; and

instructions for causing one or more processors to ensure, without terminating and restarting the processes running within the particular non-global operating system partition, that the processes running within the particular non-global operating system partition are allowed to utilize only the resources in the second resource pool.

13. The machine-readable storage medium of claim 12, wherein the first resource pool comprises one or more processors.
14. The machine-readable storage medium of claim 13, wherein the instructions for causing one or more processors to ensure that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool comprises:

instructions for causing one or more processors to assign work from processes running within the particular non-global operating system partition to only the one or more processors in the first resource pool.
15. The machine-readable storage medium of claim 12, wherein the first resource pool comprises an indication of a maximum amount of memory that can be consumed.

16. The machine-readable storage medium of claim 15, wherein the instructions for causing one or more processors to ensure that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool comprises:
- instructions for causing one or more processors to receive, from a particular process running within the particular non-global operating system partition, a memory allocation request;
 - instructions for causing one or more processors to determine whether granting the memory allocation request would cause the maximum amount of memory that can be consumed to be exceeded; and
 - instructions for causing one or more processors to grant, in response to a determination that granting the memory allocation request would not cause the maximum amount of memory that can be consumed to be exceeded, the memory allocation request.
17. The machine-readable storage medium of claim 16, wherein the instructions for causing one or more processors to ensure that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool further comprises:
- instructions for causing one or more processors to deallocate, in response to a determination that granting the memory allocation request would cause the maximum amount of memory that can be consumed to be exceeded, sufficient memory from one or more other processes to enable the memory allocation request to be granted without causing the maximum amount of memory that can be consumed to be exceeded; and
 - instructions for causing one or more processors to grant the memory allocation request.
18. The machine-readable storage medium of claim 12, wherein the operating system is executed on a computer system, and wherein the resources in the first resource pool are just a subset of a total set of resources available on the computer system.

19. The machine-readable storage medium of claim 12, wherein the instructions for causing one or more processors to ensure that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool comprises:
instructions for causing one or more processors to associate each process running within the particular non-global operating system partition with the first resource pool.
20. (Canceled)
21. The machine-readable storage medium of claim 19, wherein the instructions for causing one or more processors to ensure that the processes running within the particular non-global operating system partition are allowed to utilize only the resources in the second resource pool comprises:
instructions for causing one or more processors to associate each process running within the particular non-global operating system partition with the second resource pool instead of the first resource pool.
22. The machine-readable storage medium of claim 12, wherein the operating system executes on a computer system, and wherein the machine-readable storage medium further comprises:
instructions for causing one or more processors to receive, prior to receiving the request to change the resource pool association, from a particular process running within the particular non-global operating system partition, a request for information pertaining to all resources; and
instructions for causing one or more processors to provide, to the particular process, information pertaining only to the one or more resources in the first resource pool, even though the computer system comprises other resources.

23. An apparatus for implementing at least a portion of an operating system, comprising:

- means for establishing a plurality of non-global operating system partitions within a global operating system environment provided by the operating system, wherein each non-global operating system partition serves to isolate processes running within that non-global operating system partition from other non-global operating system partitions within the global operating system environment, wherein enforcement of boundaries between the non-global operating system partitions is carried out by the operating system, wherein the non-global operating system partitions do not each have a separate operating system kernel executing therein, wherein the non-global operating system partitions each comprise a file system, and wherein each of the plurality of non-global operating system partitions comprises a particular non-global operating system partition;
- means for associating the particular non-global operating system partition with a first resource pool comprising one or more resources;
- means for ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool;
- means for receiving a request to change the resource pool association for the particular non-global operating system partition to associate the particular non-global operating system partition with a second resource pool instead of the first resource pool, wherein the second resource pool is a different resource pool from the first resource pool, and wherein the second resource pool comprises one or more resources;
- means for changing, without terminating and restarting the processes running within the particular non-global operating system partition, the resource pool association for the particular non-global operating system partition to cause the particular non-global operating system partition to be associated with the second resource pool instead of the first resource pool; and
- means for ensuring, without terminating and restarting the processes running within the particular non-global operating system partition, that the processes running within

the particular non-global operating system partition are allowed to utilize only the resources in the second resource pool.

24. The apparatus of claim 23, wherein the first resource pool comprises one or more processors.
25. The apparatus of claim 24, wherein the means for ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool comprises:
- means for assigning work from processes running within the particular non-global operating system partition to only the one or more processors in the first resource pool.
26. The apparatus of claim 23, wherein the first resource pool comprises an indication of a maximum amount of memory that can be consumed.
27. The apparatus of claim 26, wherein the means for ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool comprises:
- means for receiving, from a particular process running within the particular non-global operating system partition, a memory allocation request;
 - means for determining whether granting the memory allocation request would cause the maximum amount of memory that can be consumed to be exceeded; and
 - means for granting, in response to a determination that granting the memory allocation request would not cause the maximum amount of memory that can be consumed to be exceeded, the memory allocation request.
28. The apparatus of claim 27, wherein the means for ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool further comprises:
- means for deallocating, in response to a determination that granting the memory allocation request would cause the maximum amount of memory that can be consumed to be exceeded, sufficient memory from one or more other processes to enable the memory

allocation request to be granted without causing the maximum amount of memory that can be consumed to be exceeded; and
means for granting the memory allocation request.

29. The apparatus of claim 23, wherein the operating system is executed on a computer system, and wherein the resources in the first resource pool are just a subset of a total set of resources available on the computer system.

30. The apparatus of claim 23, wherein the means for ensuring that processes running within the particular non-global operating system partition are allowed to utilize only the resources in the first resource pool comprises:

means for associating each process running within the particular non-global operating system partition with the first resource pool.

31. (Canceled)

32. The apparatus of claim 30, wherein the means for ensuring that the processes running within the particular non-global operating system partition are allowed to utilize only the resources in the second resource pool comprises:

means for associating each process running within the particular non-global operating system partition with the second resource pool instead of the first resource pool.

33. The apparatus of claim 23, wherein the operating system executes on a computer system, and wherein the apparatus further comprises:

means for receiving, prior to receiving the request to change the resource pool association, from a particular process running within the particular non-global operating system partition, a request for information pertaining to all resources; and

means for providing, to the particular process, information pertaining only to the one or more resources in the first resource pool, even though the computer system comprises other resources.

EVIDENCE APPENDIX

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

RELATED PROCEEDINGS APPENDIX

No decision has been issued in the related proceeding referenced in II. above, hence copies of decision in related proceeding is not provided.